Annual Report of the
Director of Public Health
2014-2015

Power of Prevention
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Foreword

Prevention, Prevention, Prevention.

That is the message that everyone was giving out in 2014/15, a message that we as a Public Health Department in the Local Authority, embrace with great delight. Duncan Selbie from Public Health England stated "It is critical that we direct our effort and resource to prevention and early intervention and no-one is better placed to do this than Local Authorities" and Simon Stevens from the NHS said in his Five Year Forward View "the future health of millions of children, the sustainability of the NHS, and the economic prosperity of Britain all now depend on a radical upgrade in prevention and Public Health". My Public Health Annual Report for 2014/15 is therefore a focus on the importance of prevention in tackling some of the poorest health outcomes in the country.

There is a clear economic case for preventing ill health, and a societal one as well, but still collectively we find it hard to move towards a prevention focused approach to health and wellbeing.

Public Health is in the business of arguing for a focus on prevention at a population level. We saw that with Smoke Free legislation and we have been reaping the benefits of reduced smoking prevalence and ill health from smoking and second hand smoke for many years. While many of the actions that need to be taken can only happen at a national level, there are many things that we can, and should do, at a local level. Sometimes, as with Smoke Free, national action will grow from local action.

So this report is making the case for the return on investment that prevention brings —

- For every £1 invested in stop smoking there is a £2 return
- For every £1 spent on cardiovascular disease prevention (smoking, obesity, physical activity) there is an £11 return
- For every £1 spent in HIV and Aids prevention there is a £4 return
- And for every £1 invested in MMR vaccination there is a £13 return.

But that return is not just financial. As well as saving the NHS and social care money down the line, it also improves health outcomes for the population and reduces the suffering caused by long term illnesses.

We all know that famous saying from Erasmus "Prevention is better than Cure"; it is better for Countries, better for Cities, better for Communities and better for individuals. We must use this message in the coming years to ensure widespread support for prevention of ill health beyond Public Health systems, so that action can be taken when and where it is needed to stop the tide of preventable ill health that we see every day in our Communities.

Dr Sandra Davies
Director of Public Health
I am delighted to present this Public Health Annual Report for 2014/15 in what has been yet again a productive and successful year in terms of our achievements.

This report is about preventing ill health and promoting positive health, so that those who live or work in Liverpool can live longer, healthier better quality lives.

The transfer of Public Health from the NHS to Local Authorities in 2013 was to help ensure that all parts of local government, as well as the NHS, work together effectively to address those broader determinants of health, and in doing so, improve health and reduce health inequalities.

Now we are well into the second year since the transfer of Public Health responsibilities, it is an appropriate time to review the work we are doing in Liverpool on improving those important broader determinants. Although the continuing period of austerity brings tough challenges to this work, it can also act as catalyst for change. It is ever more important that we recognise the role that all parts of the system can play in keeping us healthy.

Liverpool City Council has a deep seated commitment to enhancing and improving the Health and Wellbeing of the population we serve. We continue to deliver effectively on our Public Health programmes and we continue with our strong advocacy for a 'Fairer, Healthier, Happier' Liverpool and a strong commitment to overseeing its success.

Finally, I would like to thank our Public Health colleagues for their continual hard work and determination to reduce health inequalities in the city.

Councillor Roz Gladden
Cabinet Member for Adult and Children's Social Care and Health
Public Health Highlights for 2014/15

- Liverpool's overall index of multiple deprivation ranking has improved from 2nd most deprived local authority in England to 7th most deprived between 2010 and 2015.

- The proportion of Liverpool children defined as living in poverty has fallen steadily in recent years, although a third remain in poverty.

- Life expectancy has continued to improve for both men and women and is now at 76.2 years and 80.5 years respectively.

- Liverpool has seen a 10% reduction in its annual number of deaths over the last decade, compared with a 1% reduction nationally.

- The city's infant mortality rate is now below the national rate after being significantly higher a decade ago.

- Premature mortality for all causes of death as well as the main diseases of cancer and cardiovascular disease has fallen over the last decade. The cancer and cardiovascular rates have decreased faster than seen nationally.

- Alcohol related hospital admissions (broad measure) in the city have plateaued in recent years. In 2013/14 Liverpool was ranked 13th highest out of 326 local authorities compared to 2nd highest in 2008/09.

- Between 2008/09 and 2013/14 there was a 6% reduction in the Liverpool rate of alcohol related admissions (narrow measure) despite there being an overall increase in the national rate of 5%.

- There has been a significant reduction in the rate of alcohol specific admissions among under 18 year olds; over the last five years the Liverpool rate has fallen from 173.3 per 100,000 to 48.6 per 100,000 population, a rate of reduction three and a half times greater than the reduction nationally.

- After several years of increasing levels of excess weight in children, over the last year the proportion of 4-5 year olds defined as having excess weight fell from 29% to 25% and the proportion of 10-11 year olds stabilised at 39%.

- Over the last decade smoking prevalence has fallen from a high of 35% to 22% in 2014.

- The number of teenage conceptions continues to move in the right direction, and over the last decade has fallen from 45 conceptions per 1,000 girls to 34 per 1,000.

- Hospital admissions for injuries to children aged 0-14 years have more than halved over the last ten years, and the admissions rate is now the same as for England. For 0-4 year olds the rate is significantly below the national average.
Chapter One: Introduction

Since the global financial crisis in 2008, it has become apparent that there is less money available for health and care, although demand is growing. Our national health services, Healthcare, Social Care and Public Health, are having to find better ways of working to make the most of the available funding.

However, this will not be enough to make our health services sustainable for ourselves and future generations. This has led to a national and global call for a greater focus on prevention at population level, so that people are able to live healthier lives and there will be less need for such intensive health and care provision.

There is now a growing understanding that healthcare determines less than half of our health, with environment, socio-economic circumstances, behaviours and genetics as the other major drivers. The proportion of each driver making up the whole of health has been the subject of several studies with varying results best expressed by a 'fuzzy pie chart' which shows the range of different values that have been suggested for each driver and their interaction. There is preventive action that can be taken to make a difference for all the drivers. Although some will seem easier to address than others, action on any driver can have an effect on the rest, even though the change may be very small and may not be apparent for a very long time.

It is variation in experience across these drivers that will result in disparities in health outcomes for populations. Such variation can blight people's lives, often having a cumulative effect across the whole of a person's life course, and in populations resulting in inequalities that can persist across generations. However, Whitehead and Dahlgren (2006) contend that these variations are:

Figure 1: Health Determinants (Harris-Roxas 2014)\(^1\)

\(^1\) [www.slideshare.net/benharrisroxas/](http://www.slideshare.net/benharrisroxas/)
• systematically produced; they do not happen randomly but show a consistent social gradient
• socially produced and are therefore avoidable and can be changed. As Whitehead and Dahlgren\(^2\) state, 'No law of nature, for instance, decrees that the children of poor families should die at twice the rate as that of children born into rich families.'
• unfair or, inequitable.

A fairer experience of health for the population requires a 'levelling up', so that everyone has the same opportunities to achieve their natural health potential and access to good healthcare when needed. Tackling health inequalities requires addressing those determinants of health; of how and where people grow, learn, live and work and their relationships, lifestyles and responsibilities. People should not die early or live with illness and disability because of avoidable inequities. Reducing health inequities and improving population health is therefore 'everybody's business' and we must work together to achieve a 'step change' in health gain for the city.

We need to focus more on prevention to limit the demands and relieve the pressure on health and social care services, but more importantly, to reduce the time people live with ill health and to maximise their life potential. Considerable work has been done to identify evidence based preventive interventions that can improve population health and wellbeing for both current and future populations. This is important to increase health equity, recognising that system changes will need to be driven through wider determinants to make them sustainable into the future.

**Population prevention**

Ideally, to maximise positive results from preventive action, the population being addressed would be equitable to start with, but this will not be the case, as the health of children born now will have been influenced by the health of parents and previous generations. Equally, we cannot concentrate all resources on new generations while current generations live out the consequences of their own generational inheritance and circumstances. What we can do is increase preventive action across our whole population to improve people's lives while emphasising preventive action from the beginning of life as it will have the greatest cumulative effect over the whole life course.

Prevention in health is usually described as:

- **Primordial** – which seeks to address the socio-economic and environmental determinants of health to prevent ill health at a very early stage and mostly before risk factors for individuals are present, e.g. being able to live in an energy efficient home.
- **Primary** – which aims to prevent disease or injury before it occurs by preventing exposures to hazards, altering unhealthy or unsafe behaviours and increasing resistance to disease or injury, e.g. encouraging physical activity through play for young children.
- **Secondary** – which applies measures to detect disease or injury that has already occurred by treating those conditions as soon as possible, helping people to

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prevent recurrence, and enabling people to return to their original health and function, e.g. breast cancer screening programme.

- **Tertiary** – which aims to lessen the impact of an ongoing illness or injury that has lasting effects by helping people to manage their long term, often complex health problems to enable them to live their lives at the best possible capacity, e.g. treatment and care for heart failure.

**Prevention as investment**

There are many interventions that can deliver preventive action and one of the dimensions that is used for decision making on which interventions to introduce is the associated economic benefits and costs. There is considerable evidence on the costs of ill health both to the individual and society, the monetary value of specific interventions and the individual and population benefits of improvement in health and wellbeing. Prevention is considered overall to be cost-effective in that health outcomes are more favourable in the long term than costly treatment and care, but specific interventions may not be immediately 'cost saving' to the health and wellbeing system. It is also very important to understand that health has a value for each of us; allowing us to achieve what we want to be and do throughout life. However, investing in preventive action is mostly undertaken at population level designed to enable everyone to have the opportunity to achieve a good level of health.

This year's Report is designed to highlight the significance of preventive action for improving health and reducing health inequalities and inequities in Liverpool. The intention is to demonstrate the importance of Liverpool's population being able to live healthy, fulfilling lives and thereby reducing the demands upon the health and social care system. The Report will consider these issues across the life span with the need to put a much greater emphasis on prevention so that our population will be sustainable into the future. The first chapter will explore why this is so important for the Liverpool population.
Chapter Two: Liverpool Lives

In recent years there has been increasing understanding that bringing Liverpool's life expectancy at birth\(^3\) nearer to the England and Wales average (closing the gap) needs action on health inequalities to 'level up' the health and wellbeing of the population and increase health equity. There will always be natural variation in the health of populations, but where unjust conditions affecting health exist that could be addressed, they are termed health inequities.

Over the last decade Liverpool's life expectancy ranking in comparison to other areas in England has not significantly improved. For females we have moved from having the 3rd lowest to the 7th lowest life expectancy, but for men our ranking has worsened from 4th to 3rd lowest in the country. Other areas have also improved the health of their populations, and therefore life expectancy, at a faster rate than Liverpool. Improving the health of our worst off populations enough to make a difference is hard as there continue to be comparatively greater levels of vulnerability in our city than other areas, even as we improve. The gaps in life expectancy between Liverpool and the England average have reduced over the last fifteen years by less than five months for women and two months for men. This rate of change is not happening at a fast enough rate to make a significant difference between Liverpool and other areas.

The differences in life expectancy between Liverpool and the England average are 2.6 years for women and 3.2 years for men. The difference between Liverpool and the best performing local authority (Kensington and Chelsea) is 5.7 years for women and 6.4 years for men. Differences across the city as shown in Figure 2 above and Figure 3 below, are even bigger, at 9.2 years for women, and 9.5 years for men. Over the last decade, the gap in male life expectancy between the most deprived and least deprived parts of the city has narrowed, while for women it has widened.

\(^3\) Average number of years that a newborn is expected to live if current mortality rates continue to apply
Healthy life expectancy is often used to measure whether we are adding life to years, as well as years to life. Healthy life expectancy is used together with life expectancy to determine what proportion of their life people can expect to live with significant illness and/or disability. There is an equivalent gap between healthy life expectancy results for Liverpool and the average for England and Wales as there is for life expectancy itself and the same need to close that gap. Liverpool's current healthy life expectancy for men is around 57 years and for women is around 60 years, meaning that men could expect a further 19 years of life without good health, and women 21 years.

Life expectancy and healthy life expectancy are the highest level indicators in the Public Health Outcomes Framework for England, and also in Liverpool's Health and Wellbeing Strategy *Liverpool Sustainable City*. The low levels of population health in our city currently mean that extending life will result in living longer with ill health and disability. Improving healthy life expectancy is likely to result in improved overall life expectancy anyway, but it is very important for Liverpool people that the recent upwards trend in life expectancy is exceeded by the rate of improvement in healthy life expectancy.

A study by Buck and Maguire (2015) compares recent data and data from the 2010 *Fair Society, Healthy Lives* review of health inequalities to explore how the health equity of areas changes over time. Looking at the relationship between income deprivation and life expectancy they found that income inequalities have improved over time, with a greater effect in poorer areas, but there are some areas that have persistently low or high life expectancy associated with income extremes and Liverpool is one of these areas.

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6 The Marmot Team (2010) *Fair society, healthy lives* Institute for Health Equity University College London
For Liverpool, this highlights the magnitude of the change the city will have to make to improve population health and health equity sufficiently to register relative to those who have better health and can improve faster. Some indications of the difficulty of the task and the key issues for a healthy life are shown in the tables below.

<table>
<thead>
<tr>
<th>For a Healthy Start</th>
<th>For a Healthy Transition</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Almost 6,000 births a year in the city.</td>
<td>• Around 1 in 10 children experience some form of mental disorder (5,500)</td>
</tr>
<tr>
<td>• Ranges from 319 births in Speke-Garston to 102 in Woolton.</td>
<td>• Half of children achieve 5 GCSEs grades A-C (including English and maths).</td>
</tr>
<tr>
<td>• Some 8.5% of babies born have a low birth weight. This trend has been increasing.</td>
<td>• One in twelve of Liverpool's children are not in education, employment or training.</td>
</tr>
<tr>
<td>• Around 1 in 6 mothers are smokers at the time when they give birth.</td>
<td>• Levels of teenage conceptions are falling, and there were 257 conceptions in 2013/14.</td>
</tr>
<tr>
<td>• Around half of mothers initiate breastfeeding, and fewer than a third of babies are breastfed at 6-8 weeks. Both of these figures are significantly below national averages.</td>
<td>• Prevalence of sexually transmitted infections is higher in Liverpool than regionally or nationally. Levels peak in the late teens and early 20s.</td>
</tr>
<tr>
<td>• Almost all of Liverpool's two year olds have received their immunisations.</td>
<td></td>
</tr>
<tr>
<td>• Tooth decay amongst Liverpool's five year olds is significantly worse than the national average.</td>
<td></td>
</tr>
<tr>
<td>• A quarter of 4-5 year olds and 4 out of 10 children aged 10-11 years are carrying excess weight.</td>
<td></td>
</tr>
<tr>
<td>• Almost a third of children are living in poverty, equating to 29,000 children.</td>
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<tr>
<th>For a Healthy Adulthood</th>
<th>For Healthy Ageing</th>
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<tbody>
<tr>
<td>• Almost a quarter (23%) of adults in Liverpool smoke (88,000).</td>
<td>• Life expectancy in 2011-2013:</td>
</tr>
<tr>
<td>• 30,150 adults drink alcohol at levels of increasing risk, with a further 11,500 drinking at high risk.</td>
<td>• Males = 76.2 years   Females = 80.5 years</td>
</tr>
<tr>
<td>• More than two-thirds of Liverpool adults are estimated at being either overweight or obese.</td>
<td>• There is an 11 year gap in life expectancy between Liverpool's most affluent and most deprived ward.</td>
</tr>
<tr>
<td>• Some 4 out of 10 adults are classified as being physically inactive.</td>
<td>• Healthy life expectancy in 2011-13:</td>
</tr>
<tr>
<td>• 1 in 9 people have 2 or more long-term conditions.</td>
<td>• Males = 57.2 years   Females = 59.6 years</td>
</tr>
<tr>
<td>• Prevalence of long-term conditions: Coronary Heart Disease: 3.7% Diabetes: 5.9% Stroke: 1.7% Depression: 7.1% (18+ yr olds) Mental Health: 1.3% Dementia: 0.6%</td>
<td>• Almost 3,000 people have been diagnosed with dementia.</td>
</tr>
<tr>
<td>• An estimated 1 in 3 older people suffer a fall each year, and in 2013/14 there were 2,000 emergency hospital admission for falls made by over 65 year olds in Liverpool.</td>
<td>• Up to 16% of older people suffer from loneliness (11,000).</td>
</tr>
<tr>
<td>• Almost 26,000 older people have a long-term illness that limits their day to day activities a lot.</td>
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</tr>
</tbody>
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The importance of increasing focus on prevention in early life while addressing the needs of people who have not experienced such focused intervention was mentioned in the introduction as the way to make the biggest change to the number of years people might expect to live without illness or disability. The following chapter will look at why there should be this focus and the impact increasing preventive action can have.
Chapter Three: The Best Start in Life

Pregnancy, birth and the first 24 months of a new child's life can be tough for every parent, but this time period forms a critical 'window of opportunity' when parents are especially receptive to offers of advice and support. Prevention and early intervention where it is needed is never more significant than during this window from conception to the end of the second year, i.e. the first 1000 days.

As infants grow and develop within the circumstances that they are born into, every opportunity should be sought to enhance and promote their health and wellbeing so that they will be able to achieve their full growth and development potential. We know that preventive intervention in the early years is extremely cost effective; bringing many-fold returns for society with healthy children who can become fulfilled and participative adult citizens able to achieve their economic potential.

Household income and exposure to poverty and deprivation, the quality of housing and access to health and care services will have a huge impact on a child's life chances. Building resilience through good ante-natal care, strong attachment, breastfeeding, positive regard and recognition of the rights of the child as full citizens, will go a long way to ensuring that all children are ready to learn by their two and a half year assessment and ready for transition to school in their 5th year. The children of today are the adults and parents of tomorrow who will also experience good or poor health to varying degrees and which will have subsequent impacts on their own children. Encouraging positive parenting and building on parents' skills is therefore vital to create capable and successful citizens in the next generation.

Population growth
The Office for National Statistics estimates that there are just over 89,900 children and young people in Liverpool. This number is projected to grow by a further 5.4% over the next decade. This would equate to an additional 4,870 children and young people by 2024. Projections indicate the growth will be particularly in the 8–13 age group.

Infant Mortality
Infant mortality is often used as a measure of the overall health and wellbeing of the population. In 2013 there were 22 deaths in Liverpool which occurred in the first year of life. The long term trend is a positive one with a reduction of more than a third since 1999. In 2013, Liverpool's infant mortality rate was 3.9 deaths per 1,000 live births, which was below the England average (4.0) for the first time. Work is needed to reduce the gap
between child deaths that occur to families in deprived areas and those in more affluent areas.

**Deprivation and Child Poverty**
The biggest impact on child health in the city is from poverty and inequality. A substantial proportion of Liverpool residents live in areas of high deprivation. Almost 45% of the Liverpool population live within communities ranked in the 10% most deprived in England. Less than 1% of local residents live in communities ranked in the least deprived in England. The severity and extent of deprivation in the city has significant implications for the health and wellbeing of children and young people as it is strongly associated with poor health outcomes from conception through childhood to adulthood and old age.

Figures for 2013 indicate that around a third of children in Liverpool live in poverty, equating to 25,530 children. Child poverty levels in the city are the 4th highest among the core cities in England, and significantly above the national rate. Extensive research and data show that children who grow up in poverty face a greater risk of poor health, being exposed to crime and failing to reach their full potential. Within the city there is a large variation in the extent of poverty ranging from almost 1 in 2 children in Princes Park ward to 1 in 10 children living in Woolton ward. The challenges are huge for families with young children who are experiencing poverty. Preventive work through early intervention and support for these families and their communities is essential, using the best available evidence for interventions in order to maximise their life chances.

The Healthy Child Programme that runs from pregnancy through to 19 years is recognised as a robust, evidence based programme for delivery by health visitors and school nurses in partnership with other services. Prevention is the golden thread through the programme that enables practitioners to work with all families and children to anticipate future health and wellbeing needs for children relating to their growth and development through good parenting practices. The intention is to both prevent problems occurring and, if they do arise, to intervene early to prevent deterioration.
**Improving health behaviours**

As society has become more sedentary this is having an impact on the health, development and wellbeing of children. Prolonged sitting is thought to slow the metabolism, which affects the body's ability to regulate blood sugar, blood pressure and break down body fat. Studies have linked excessive sitting with being overweight and obese, type 2 diabetes, some types of cancer, and premature death.

All children learn who they are and their place in the world through play. Play is essential to development because it contributes to the cognitive, physical, social, and emotional wellbeing of children and young people. Play offers an ideal opportunity for parents to engage fully with their children. Being physically active every day is important for the healthy growth and development of babies and toddlers. In the early years activity of any intensity should be encouraged, including light activity and more energetic physical activity.

Children should be encouraged to eat a wide range of healthy foods. From their earliest days what children eat impacts on their health. The benefits of breastfeeding are undisputed both for mothers and babies, yet only 53% of women in the city chose to breastfeed their babies at birth and by 6–8 weeks this had reduced to 31%. Consistent messages from all front line staff are needed to normalise breastfeeding and the support of family and friends is crucial.

Liverpool has led the way in reducing smoking behaviours but we cannot be complacent, smoking in pregnancy impacts not only on the mother's health but on her baby growing in the womb. Second and third hand smoke has been linked to an increased risk of sudden infant death syndrome, glue ear and asthma.

Synthetic data illustrating smoking prevalence among young people has shown that Liverpool has higher than the national average of regular smokers, aged 11-15 years and 16-17 years, although lower than average occasional smokers, compared to England. We already know that among adult smokers, about two-thirds report that they took up smoking before the age of 18 and over 80% before the age of 20. The younger the person is when starting to smoke, the worse the potential consequences – early uptake is associated with heavier smoking, higher levels of dependency and higher mortality.

Young people in the city have actively campaigned against smoking. One of the most sustainable groups D-MYST, is now an established youth movement recognised locally, nationally and internationally.

Alcohol consumption in pregnancy can impact on foetal growth and development and can seriously impact on the developing brain. Alcohol can be a stimulant and reduce inhibitions but it impacts on cognition and function. Alcohol can lead to young people being involved in a range of risky and health damaging behaviours which can have long term consequences such as pregnancy, injury to themselves and/or others and criminal behaviours.
There is growing evidence that we can increase the chances of favourable health and developmental outcomes for children, particularly so for those born into vulnerable families through planned, evidence-based and culturally appropriate interventions during infancy and early childhood. A focus on prevention and early intervention especially for vulnerable families will help to ensure that children have an equitable best start in life. We also know that such early investment is extremely cost effective particularly in the longer term for children to achieve their personal and economic potential.

The key features associated with positive outcomes include:

- Intervening early, using the best available evidence, in the lives of the most vulnerable population groups.
- Developing innovative intervention programmes on 'baby friendly' environments and the importance of the first 1,000 days.
- Focusing on initiatives that include both parents and babies.
- Using strengths-based approaches that are inclusive and culturally responsive at every stage of a child’s progress, and that are based and developed in people's own communities.

**Key Public Health Objective**

To work with partners to define the environment the city needs to provide before birth and in early years that will afford every Liverpool child the best start in life.

**Recommendations**

- To continue to invest in children and families in the early years by developing a coherent framework of services for families, from pregnancy through to age five, which focus on promoting children's development and help with all aspects of family life, and protecting the most vulnerable.
- To ensure all children are ready for school at 4 and support children of school age through joined up working across health, education and social care, ensuring consistent messages and maximising their attendance to promote attainment.
- To develop youth models of health and wellbeing with joined up services that will engage young people in positive ways, enabling them to be competent and confident in leading and managing their own lives and minimising risky behaviours.
Chapter Four: Health and Care

The number of people with long term conditions in Liverpool is likely to rise as our population ages. Unhealthy lifestyles, deprivation and wider influences on health all impact on this trend, and the outcomes of people living with these conditions. A focus on the effective prevention and management of long term health conditions is needed for local people to be able to live their lives to their full potential. Doing so will not only improve the health of our residents, but also help to reduce health and social care costs, costs to businesses and contribute to the economic success of the city.

Burden of Disease

The increasing prevalence of comorbidities (people living with 2 or more long term conditions) is one of the major challenges facing the health and care system. People with multiple long term conditions require more complex care and support packages, and often face poorer health outcomes. Nationally, the overall prevalence of long term conditions is projected to remain relatively stable over the next 10 years, however the prevalence of comorbidities is expected to increase by more than 50%. The Department of Health has identified two distinct population groups at risk of comorbidity:

- Younger, socially deprived populations, with greater exposure to risk factors. In particular smoking, obesity, alcohol and physical inactivity due to challenging personal, occupational and societal factors throughout the life course.
- Older population whose comorbidity is mainly driven by increased life expectancy and longer exposure to risk factors over the course of their life.

These different groups require very different interventions and support, with prevention (both primary and secondary prevention) and action on the wider determinants of health more important for the first group, and support to maintain independence and day to day activities more relevant to the latter.

In Liverpool, 1 in 5 people have a single long term condition (equating to roughly 92,400 people), with just over 1 in 10 people having 2 or more long term conditions (equating to...
roughly 49,500 people). The diagram above (Fig. 4) shows the percentage of people in Liverpool with two or more long term conditions by age and deprivation.

As expected, the prevalence of comorbidity increases with age, peaking at just over 70% for those aged between 85 and 89. However, there is a clear distinction between the most deprived and least deprived areas of the city, with the prevalence increasing at an earlier and faster rate among the most deprived communities. From the age of 30, the difference in comorbidity between the most and least deprived communities becomes statistically significant.

The impact of having multiple long term conditions on the overall health and wellbeing of the individual varies depending on the conditions concerned. Those people with mental health conditions experience poor health outcomes when they have additional long term conditions, with the prevalence of mental health conditions often masking the presence of other physical health conditions.

**Self-Care**

Self-care is a term used to describe a wide range of activity to encourage people (maybe not yet patients) to take care of their own health and have a higher degree of self-reliance and less reliance on formal services. Self-management is defined as the tasks that individuals can undertake to improve care of the body, management of the condition, adapting everyday activities and roles to conditions and dealing with the emotions arising from having the condition. Self-management is considered to be one component of self-care and is often used to describe a 'formal' programme, based on education and self-efficacy, usually in a specific disease area, for example, EXPERT for diabetes.

Self-care and self-management may take into consideration a complex range of health and social needs. The development of a self-care model for Liverpool holds the person at the centre and looks to support health and wellbeing in a variety of ways, depending on the individual's needs and expectations. It will also assist families and informal carers to support self-care for those that are cared for. The benefits of self-care are widely documented. Evidence shows that supporting people with self-care provides both personal and economic benefit. The NHS and care services continue to do an excellent job of 'looking after' people but now there needs to be a cultural shift from treatment to prevention and self-care. This is going to be a long term process; change won't happen overnight. We need to steer the health and care system to be more proactive, earlier in the patient journey and to make support for self-care part of the norm.

We also need to mobilise the population to be able to self-care, to increase aspirations as to what good health looks like and what it can offer. What people do in their everyday lives largely determines their health and their need for health care. The influence of patient behaviour on health outcomes can be seen in everything from preventing illness in the first place through to the management of long-term health conditions. As 60%-70% of premature deaths are caused by behaviours that could be changed, it is essential that patients and the general public become more engaged with adopting positive health behaviours. A key consideration is how far people are able to participate in their own health care; do they have the knowledge, skills, confidence and motivation needed, and if not, how do we address that need.
Mortality

Cancer, Cardiovascular Diseases and Respiratory Diseases represent the main causes of deaths in Liverpool, accounting for roughly two thirds of all premature deaths in the city (those occurring under the age of 75). However, it is not just the number of deaths that influence life expectancy, but rather the age at which they occur. A death that takes place at a young age has a much greater impact on our average life expectancy than one that occurs later in life.

Cancer

Cancer is the leading cause of premature mortality in Liverpool. Between 2012 and 2014 there were around 640 deaths each year from cancer that occurred under the age of 75. The mortality rate in Liverpool is significantly above both national and regional levels and is the second highest among the core cities, behind only Manchester. However, trends indicate there has been a statistically significant reduction in the mortality rate in the city, falling by just over 16% since 2001-03. In addition, the inequality gap with England has also reduced, falling by just over 15%.

Cancer is the single largest cause of the gap in life expectancy between Liverpool and England, for both males and females. If our mortality rates were the same as those nationally, men in the city would live more than a year longer than they do today, and women almost 10 months longer. While there have been significant improvements in Cancer outcomes in recent years, it is important to recognise that the disease is largely preventable. Cancer is heavily influenced by lifestyle, with research suggesting up to half of all cancers could be prevented by changes to lifestyle behaviours such as: stopping smoking, increasing physical activity, and reducing alcohol consumption.
Figure 6 Leading causes of death in Liverpool 2014 persons under 75 years
**Cardiovascular Diseases**

Cardiovascular Disease is a term which relates to a disease of the heart or blood vessels. It covers a range of conditions including Heart Disease, Stroke, Peripheral Arterial Disease and Aortic Disease. Following Cancer, Cardiovascular Diseases are the second largest cause of premature death in Liverpool, accounting for almost 300 early deaths every year. The mortality rate in Liverpool is significantly above national levels, and is one of the highest among the core cities. However, trends indicate there has been a statistically significant reduction in premature deaths from Cardiovascular Diseases, with rates falling by more than half since 2001-03. In addition, the inequality gap with England has reduced by more than 45% over the period. While there has been a significant improvement in Cardiovascular Disease outcomes, with an ageing population and the current levels of obesity and diabetes, past gains will not be sustained unless there are further improvements in prevention.

![Figure 7 Directly age standardised mortality rate from Cardiovascular diseases for persons under 75](image)

**Respiratory Diseases**

Respiratory Diseases are chronic diseases affecting the airways and other structures of the lungs. Some of the most common chronic respiratory diseases are asthma and chronic obstructive pulmonary disease (COPD). Respiratory Diseases are the third largest cause of early death in Liverpool, with almost 230 cases a year. The premature mortality rate in the city is significantly above both national and regional levels and is the second highest among the core cities, behind only Manchester. Unlike Cancer and Cardiovascular Diseases, the mortality rate from Respiratory Diseases has remained relatively static over recent years, falling by less than 2% over the last decade. In addition, latest figures indicate the inequality gap with England has increased by almost a quarter.

Smoking is the most common cause of Respiratory Diseases and around 86% of COPD deaths are attributable to smoking status. Furthermore, Respiratory Diseases often coexist with other conditions that share tobacco smoking as a risk factor, such as Heart Disease and Lung Cancer.
Deaths Considered Amenable to Healthcare
Deaths from causes considered 'amenable' to healthcare are premature deaths that should not occur in the presence of timely and effective healthcare. This is one of the overarching outcome measures used to monitor the health of the local population. The rate of potential years of life lost considered amenable to healthcare in Liverpool is significantly higher than England, and trends indicate that the overall rate has remained relatively stable over the past five years, both locally and nationally.

Heart disease makes up the single largest portion, accounting for just under a third of deaths considered amenable to healthcare, with Neoplasms (Cancer) accounting for roughly a quarter. Figures for 2012-14 indicate that the rate of years of life lost for each of these conditions is above national levels, with levels related to Respiratory Diseases almost double the rate in England as a whole.
The rate of years of life lost that are amenable to healthcare has reduced significantly for some conditions, falling by almost a quarter for heart disease between 2009-11 and 2012-14. In contrast, the rate for cancer has increased by 12% over the same period.

<table>
<thead>
<tr>
<th>Ischaemic Heart Disease</th>
<th>Cerebrovascular Diseases (Stroke)</th>
<th>Respiratory Diseases</th>
<th>Neoplasms (Cancer)</th>
</tr>
</thead>
<tbody>
<tr>
<td>24%</td>
<td>12%</td>
<td>4%</td>
<td>12%</td>
</tr>
</tbody>
</table>

Table X: Percentage change in PYLL in Liverpool between 2009-11 and 2012-14
Source: CCG Outcomes Framework

Key Public Health Objectives

— To reduce the numbers of people living with preventable ill health and people dying prematurely, while reducing health inequalities.

— To embed prevention with a broad population focus at all levels of health and social care.
Recommendations

• Many of the factors influencing the development and outcomes of our major long term conditions are preventable. There needs to be a systematic approach to promoting and supporting healthy lifestyles in the city.
• Improve access to targeted specialist lifestyle support for people with long term conditions to improve health and reduce the risks of ill health in the future.
• Early identification of health conditions can significantly improve health outcomes. It is important that we continue to raise awareness of the signs and symptoms of cancer in the city, and also redouble our efforts to improving the uptake of our Cancer screening programmes.
• A focus on supporting and treating the person rather than individual conditions in isolation, addressing their full range of needs, including improving support to help people to manage their health conditions effectively.
Chapter Five: Living Well

The way we live our lives can present risk factors for ill health and early death. These risk factors can have greater impact depending on our lived experience and current environments. These risk factors include alcohol and drug use, what we eat and how much exercise we take, tobacco harm and our sexual health. One of the strongest preventive factors is awareness of those risk factors and the possible harm to health as well as any protective factors. Young people are more likely to engage in 'risky' behaviour and have less comprehension of the possible consequences for themselves and others. All of these risk factors have a strong element of individual responsibility as they involve behaviours that we can change ourselves, although that may be harder for some people than others, depending on their situation. There is considerable debate about how much preventive action national and local governments should take through legislation as people may believe that restrictions should not be imposed. However, some of the biggest benefits to health have come through legislation such as the requirement to wear seatbelts in cars.

Tobacco

Tobacco is the single biggest behavioural risk factor for premature death and illness, and 18% of deaths in adults aged over 35 years in England are estimated to be attributed to smoking. Each year, around 100,000 smokers die from smoking-related diseases in the UK. Smoking is a major risk factor for multiple diseases, such as lung cancer, chronic obstructive pulmonary disease (COPD) and heart disease. It is also associated with cancers in other organs, including lip, mouth, throat, bladder, kidney, stomach, liver and cervix. Smoking prevalence in Liverpool has fallen from 35% in 2005 to 25% in 2013.

The cost to the NHS of treating smoking related illness is estimated to be £5.2 billion per year. Smoking costs the NHS in Liverpool approximately £27 million, and there are also additional costs to clear up cigarette related litter, smoking related fires and an estimated cost of £24.9 million in lost productivity due to smoking related sick days. Furthermore, smoking places a significant financial burden on families, taking money away from family budgets, usually from those who can least afford it. Smoking is a major cause of health inequalities; not just because of the ill health it causes, but also due to the amount of money the addiction diverts from budgets. A twenty-a-day smoker currently spends more than £2700 per annum on tobacco and in Liverpool around £147.5 million is spent on tobacco products, money that residents then cannot spend on other things, from basics such as heating, food and clothing to days out, holidays or savings.

Two thirds of current or ex-smokers report that they began smoking before they were 18 years old. Young people who begin
smoking earlier risk greater harm as they are more likely to be heavy smokers, have a higher level of dependency, a lower chance of quitting and higher mortality. We estimate that Liverpool has the highest smoking prevalence among young people aged under 18, with almost 1 in 5 classed as regular smokers.

If we can reduce the number of people smoking in Liverpool, we can have an impact on the overall health of both smokers and those who are affected by smoking. Stop Smoking Services are an evidence based way of supporting our population to reduce smoking rates and Liverpool has had successful services for many years. Liverpool still has high rates of smoking in some of our communities, in spite of the continued fall in prevalence overall, and the continued use of the service is an important part of our tobacco control strategy. However, in the last year we have seen a reduction in referrals into the service and this is thought, in part, to be related to the rise in the use of e cigarettes. This is a national trend and not unique to Liverpool, but is something that clearly needs to be addressed, given the lack of evidence around the efficacy of e cigarettes as a stop smoking aid, their safety, their role as a gateway into smoking tobacco and their role in re-normalising smoking. Liverpool has worked hard this year with services, clinicians and the public to offer support to people wanting to stop using e cigarettes as well as tobacco and shisha. These are all addictions that no-one needs.

Alcohol

The effects of alcohol misuse can be devastating for the individual, as can be seen in the rise of liver disease in younger adults, and widespread, from public nuisance in urban centres to fear of accessing amenities in older people. Easy access to alcohol is one of the promoting factors and where access is reduced, general consumption levels will fall. The use of multiple drink offers in licensed premises and very low pricing in supermarkets works against this. The best way of reducing easy access is to increase the cost to the end user through measures such as minimum price per unit. Alcohol is now 45 per cent more affordable in the UK than it was in 1980. Alcohol misuse costs England approximately £21 billion per year in healthcare, crime and lost productivity. Costs for Liverpool are estimated at nearly £204 million per year, which equates to over £200 per person.

Consumption of alcohol is highest among young people in Liverpool and older people are less likely to drink alcohol but those who do drink do so more often. Around half of women in Liverpool drink alcohol and nearly two-thirds of men. There are estimated to be nearly 100,000 binge drinkers in Liverpool, over 80,000 increasing risk (hazardous) drinkers, 30,000 higher risk drinkers (high risk of alcohol related illness) and over 20,000 dependent drinkers. It is estimated that in Liverpool around
23,000 children may be living with adults who are binge drinkers, 17,000 children may living with adults who drink at increased risk and 2000 children may be living with adults who are higher risk drinkers. Alcohol consumption by an expectant mother may cause foetal alcohol syndrome and pre-term birth complications. Local research suggests that a further risk factor is confusion about the current guidance that it is safe to drink small amounts (one or two units a week).

Alcohol related hospital admissions are used as a measure of the burden of alcohol on community and health services. Between 2008/09 and 2013/14 in Liverpool there was a reduction by 6% in the rate of alcohol related admissions while the rate for England increased by 5%. Between 2006-09 and 2013-14 the rate of alcohol specific hospital admissions among young people in Liverpool fell by more than 70% from 173.3 per 100,000 population to 48.6 per 100,000 population which is a much faster rate of decrease than nationally.

In the five years between 2008-12 there were 414 alcohol-specific deaths, 66% of which were males. Alcoholic Liver Disease was recorded as the underlying cause of death in 86% of deaths and 95% were persons aged under 75 years. 118 deaths were between the ages of 40 and 49 years, 38 between 30 and 39 years and 10 were under 30 years of age. From 2006/08 to 2011/13 alcohol specific mortality in males (DSR per 100,000 population) increased by 8%, compared to no change nationally. However alcohol specific mortality in females fell by 12% over the same period whilst there was no change in the national rate. Rates of alcohol specific mortality in Liverpool are still some of the highest in England.

The association between mental health problems and substance misuse are widely recognised. The 2002 Co-morbidity of Substance Misuse and Mental Illness Collaborative Study reported that 85% of users of alcohol services were experiencing mental health problems, 50% of those in treatment for alcohol problems had ‘multiple-morbidity’ and 44% of mental health service users were assessed to be drinking alcohol at increasing or higher risk.

**Substance Misuse**

Drug addiction is a relatively rare but complex issue, associated with poor health for the individual, family breakdown, homelessness and offending. Around 1.2 million people in England are affected by drug addiction in their families. Nationally in 2011-12, about 9% of adults were estimated to have used an illegal drug, rising to nearly 20% of 16-24 year olds. 60% use alcohol at the same time, and 7% use two or more drugs at the same time. Age of initiation is often the strongest predictor of the length and severity of substance misuse problems with the earliest users most likely to have the severest problems. Around 1500 deaths in England and Wales each year relate to drug misuse. The annual cost to society of drug misuse has been estimated to be in the region of £15.4 billion each year. In Liverpool, there are significantly higher numbers of opiate users (heroin and/or crack cocaine) than

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the national average, although numbers are reducing. Numbers of non-opiate users (powder cocaine and other drugs) are rising generally. The rate of those injecting drugs rose in 2011-12 but is still not significantly different to the national rate. In 2012-13, there were just over 3100 admissions among Liverpool residents which were drug-related, an increase of almost 10% since 2008. Between 2007 and 2011, there were 184 drug-related deaths in the city; an average of 37 deaths per year. Almost half of the drug-related deaths during this period were due to intentional self-poisoning (49%). Liverpool men are much more likely to be admitted to hospital or suffer a drug-related death than Liverpool women. People over the age of 40 accounted for about half of all drug-related hospital admissions and deaths in Liverpool in 2012-13.

Providing methadone and sterile needles and syringes protects drug users who inject, and their communities, from the spread of blood-borne viruses, and provides long-term health savings. Between April 2011 and March 2012, there were 4184 people in Liverpool who were effectively engaged in treatment for three months or more, of which 75% were opiate users. Around 12% of the people in specialist treatment services were young people under the age of 18 years which is higher than 9% nationally. In 2013, Liverpool had a success rate for service users completing drug treatment and not re-presenting into treatment within a six-month period of 7.2% for opiates and 44.6% for non-opiates compared to 7.8% and 37.7% nationally.

Sexual Health

Sexual health is defined as an important part of physical and mental health. Essential elements of good sexual health are equitable relationships and sexual fulfilment with access to information and services to avoid the risk of unintended pregnancy, illness or disease. However, sexual health also includes elements such as sexual violence and is a risk factor for individual and population health. In 2014-2015, Local Authorities committed to spending over £71 million (nearly a quarter of the overall Public Health Grant) on sexual health services.

There are five key sexually transmitted infections (STIs) which are routinely monitored by Public Health: Chlamydia, Genital Warts, Gonorrhoea, Herpes and Syphilis. Chlamydia is the most common STI in the UK and can cause complications such as pelvic inflammatory disease, ectopic pregnancy and tubal-factor infertility. Chlamydia often has no symptoms so a large proportion of cases remain undiagnosed. Herpes is a long term condition with no cure and untreated syphilis can cause serious damage throughout the body. The overall number of diagnoses in Liverpool for these STIs increased by 6% between 2009 and 2012, and there were 5,019 new cases in the city in 2012. In 2012 there were 1,078 acute diagnoses of STIs per 100,000 population in Liverpool which was 27% higher than the England average. The estimated costs of treating 510,000 new STI diagnoses made in the UK in 2011 were £620 million.

Human Immunodeficiency Virus (HIV) is a virus most commonly caught through unprotected sex or sharing infected needles to inject drugs. Acquired ImmunoDeficiency Syndrome (AIDS) is the final stage of HIV infection, when the body can no longer fight life threatening infections or cancers. There are currently around 640 people diagnosed with HIV in Liverpool, however it is estimated almost 1 in 4 people with the condition are unaware of their status. Early diagnosis of HIV improves individual prognosis and can prevent onward transmission. Over half of patients newly diagnosed in the UK are diagnosed late (defined as a CD4 count <350 cells per mm3) and 90% of deaths among HIV positive individuals within 1 year of diagnosis are among those diagnosed late. There
Increasing access to parks and open spaces could reduce NHS costs of treating obesity by more than £2 billion.

Healthy Weight

Childhood obesity is one of the most serious Public Health challenges of the 21st century. Overweight and obese children are likely to stay obese into adulthood and more likely to develop non-communicable diseases like diabetes, cardiovascular diseases and cancer at a younger age. NHS costs attributable to overweight and obesity are projected to reach £9.7 billion by 2050, with wider costs to society estimated to reach £49.9 billion per year.

In 2007, it was estimated that the annual cost to Liverpool of obesity related diseases was £84 million per year, increasing to £105 million by 2015. Obesity is largely preventable and together with the risk reduction for associated disease, could have considerable impact on the life expectancy of current generations. Together with physical activity, diet is a major determining factor in risk of obesity and failure to maintain a healthy weight. Consumption of excess calories is often linked to the consumption of high energy foods such as fast foods and sweetened drinks which are readily available. Eating habits established during childhood are likely to continue through to adulthood, with family and culture having a large influence in how these habits develop.

Children are measured in Reception Year (age 4/5) and again in Year 6 (age 10/11). For Liverpool children in Reception Year in 2013-2014: 1.0% were measured as underweight (England 0.9%) 13.5% were measured as overweight (England 13.1%) 11% were measured as obese (England 9.5%). For Liverpool children in Year 6 in 2013-2014: 0.6% were measured as underweight (England 1.4%) 15.4% were measured as overweight (England 14.4%) 23.6% were measured as obese (England 19.1%).

Increasing access to parks and open spaces could reduce NHS costs of treating obesity by more than £2 billion.

Every £1 spent preventing teenage pregnancy saves £11 in healthcare costs.

Healthy Weight

Most teenage pregnancies among females aged 17 and under are unplanned and around half end in an abortion. For many teenagers bringing up a child is extremely difficult and often results in poor health outcomes for both the teenage parent and the child. In 2012 there were 278 conceptions to under 18 year old females in Liverpool (35.7 per 1,000 aged 15-17 from 39.6 per 1000 in 2011). The 2012 England rate was 27.7 per 1000.

In 2007, it was estimated that the annual cost to Liverpool of teenage pregnancy was £1.1 million per year, increasing to £1.6 million by 2015. Every £1 spent preventing teenage pregnancy saves £11 in healthcare costs.
The 2012 Active People Survey estimated 67.2% of adults in Liverpool to be overweight (England 63.8%) and of these, 25.9% to be obese (England 23%).

**Physical Activity**

Physical activity has multiple benefits for physical and mental health. Physical inactivity has been termed a 'silent killer' and is now the 4th biggest cause of death in the UK at 17%, which is one of the highest rates in the world. Physical inactivity causes twice the number of deaths in the UK than obesity. Increasing activity can have immediate and longer term positive effects on individual and population health. People who are sufficiently active can live a quality life between 7–14 years longer, however, in Liverpool only 1 in 5 adults are currently active enough to benefit their health.

Physical activity refers to a wide range of activities including active recreation and sport as well as the activities of daily living such as active travel, shopping, cleaning and climbing stairs. The composition of activities a person is involved in will change throughout life, however, all activity is recognised as beneficial. If 50% of people in Liverpool who now walk for 10 minutes a day increased that to 20 minutes a day, an additional 29 lives could be saved each year.

The national recommendation for adults engaging in physical activity is that activity should add up to at least 150 minutes of moderate intensity activity in bouts of 10 minutes or more. This could be the easy to remember 30 minutes on at least 5 days a week. Moderate intensity activities should cause a small increase in breathing or heart rate, such as brisk walking, cycling, or swimming. Only 14% of people in Liverpool aged over 16 are regularly achieving this level of activity and 49.5% of residents aged over 16 do not take part in any regular physical activity in a typical week.

Public Health England has estimated that increasing adult physical activity levels in Liverpool to the recommended level could prevent 424 deaths each year, 146 Coronary Heart Disease emergency admissions, 2,452 new diabetes cases, 55 cases of breast cancer and 43 colorectal cancer cases. There are also considerable health benefits of engaging in physical activity for people with long term conditions.

An active patient with diabetes who walks 3 hours a week is 2.5 times less likely to die of heart disease than an inactive patient without diabetes. Patients with COPD who do 30 minutes of gentle walking each day halve their risk of an emergency hospital admission.10% of deaths from Coronary Heart Disease are due to inactivity but walking briskly for 180 minutes a week could reduce the risk of myocardial infarction by 22% for men and 33% for women. Physical activity can be an effective treatment for depression particularly when taken in groups and active people could reduce their risk of developing dementia by 40%. Regular physical activity at the recommended levels could reduce the risk of osteoarthritis by 83%, reduce the risk of falls in older adults by 30% and reduce the risk of hip fracture by 68%.
Inactivity not only impacts on the health and wellbeing of the individual, but also places a substantial burden on health and care services including the treatment of long term conditions. Sport England have calculated the cost of physical inactivity to Liverpool to be £10.8 million per year, based on the savings that could be made on cost of treating 5 major non-communicable diseases if the population achieved recommended levels of physical activity. The saving for breast cancer would be £0.4 million, £0.5 million for colorectal cancer, £1.6 million for cerebrovascular disease, £2.4 million for diabetes and £5.7 million for coronary heart disease. This does not include additional costs from musculoskeletal disease, mental health and the cost to the economy due to time off work or increase in social care spend.

**Clustering**

In 2011, the Chief Medical Officer highlighted the fact that in many cases unhealthy lifestyle behaviours cluster together. The Health Survey for England shows that approximately 25% of those aged 16 and over report one lifestyle risk factor, 33% two risk factors, 23% three risk factors and 12% four or more risk factors. Only 7% of adults have no risk factors. Someone in mid-life who smokes, drinks too much, exercises too little and eats poorly is four times as likely to die over the next 10 years than someone who does none of those things. This clustering effect reminds us why it is so important to consider the person in their environment and understanding how these different behaviours interact is crucial to improving health and wellbeing.
Wellness services

Wellness services provide support to people to live healthy lives. The wellness approach goes beyond looking at single issue, healthy lifestyle services and a focus on illness, and instead aims to take a whole person and community approach to improving health. Wellness has been described as a continuum rather than an end state with seven integrated dimensions of wellness: physical, intellectual, emotional, social, spiritual, occupational and environmental. Services may engage with families and groups as well as individuals. Wellness services aim to encompass and integrate both mental and physical health and wellbeing issues. The intention is to change the relationship between service users and health services by empowering individuals to maintain and improve their own health and recognise that wellbeing underpins behavioural change. Wellness services have potential to be cost effective through aligning separate services and could represent a model for integrated working with reduced resources.

Key Public Health Objectives

— To continue to reduce the number of people who smoke, reduce the harm to individuals and communities from the misuse of alcohol and drugs, support people to be more physically active and halt the rise in obesity.

— To improve health and wellbeing outcomes for people with mental health problems and promote mental wellbeing across the population.

Recommendations

• To work to deliver an integrated approach to living well, and to ensure that services link together for maximum health gain.
• To continue to understand why people make the lifestyle choices that they do, through insight and social marketing, and to develop interventions that support positive lifestyle changes.
• To continue to reduce smoking prevalence and alcohol consumption, and to promote healthy eating and increased physical activity.
• To work to improve lifestyle related health outcomes at a faster rate in our more deprived communities to reduce health inequalities.
• To engage communities and individuals around the self-care agenda and to empower them to take control of their lifestyles.
£4,000 support to a teenage mother which enables her to move into work will be repaid 20 times over through increased tax contributions over the life course and reduce public service costs by £200,000

Chapter Six: Working Well

From April 2014 to March 2015 105,700 people (32.9%) were economically inactive in Liverpool (not in work and not available for work) and 199,900 (60%) were in employment. In the whole of Great Britain 22.6% of people were economically inactive and 72.7% were in employment. In the three months December 2014 to February 2015, there were a total of 66,880 (20.3%) claimants of out of work benefits (GB 12.5%). Of these 10,140 (3.1%) were claiming Job Seekers Allowance (GB 2.0%) and 36,220 (11.2%) were claiming Employment and Support Allowance or Incapacity Benefit (GB 6.3%).

Our society views working as a social norm. There is good evidence of the benefits to working that impact upon health including financial sufficiency, social engagement, individual identity and status, a framework for living and opportunities to develop. There is no formal definition of good work but good quality jobs might be expected to have adequate pay, protection from physical hazards, job security and skills training with potential for progression, a good work/life balance and the ability for workers to participate in organisational decision making. Consequently, good quality jobs can be protective of health and poor quality work can have adverse impacts. Furthermore, alongside the quality of work itself the degree of stability for employment in the labour market can create additional stresses for families. For example by 2013 there had been a shift from full-time employment (4% decrease) to part-time employment (5.9% increase) in Liverpool since 2009. The increase in part time employment was similar to the core cities average but double the national average of 2.9%. Similarly, there are increasing numbers of people employed on zero hours contracts nationally with 2014 seeing a 26% increase (697,000 people) compared to 586,000 in 2013.8

Being unemployed is generally harmful to health, and leads to higher rates of poor physical and mental health which worsen over time, higher death rates, increases in risk factors such as smoking, drinking and physical inactivity and increases in use of health services, medication and hospital admissions. Increasing debt as a result of unemployment is also a risk factor for mental and physical ill health. In addition, unemployment can have broader impacts beyond the individual with severe adverse effects on family and community life. Unemployed people can have lowered self-esteem which can affect their

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chances of re-employment and they may be less likely to be successful in health interventions such as smoking cessation.

Working is generally good for individual health and wellbeing but there are still adverse impacts of work that need preventive action to reduce or eliminate them. There are four ways in which the nature of work can have an adverse impact on health: physical conditions of work, psychosocial conditions at work, poor pay or not enough hours of work, and temporary work, insecurity, and the risk of redundancy or job loss. Between 2013 and 2014, 1.2 million working people in Great Britain had an illness or condition believed to be work related. In 2013-14 there were over 629,000 injuries at work of which 148,000 led to more than seven days absence. 4.7 million days lost due to workplace injury and 23.5 million days lost due to work-related ill health in 2013-14 were estimated to cost the British economy £14.9 billion.

Health in the Workplace

Three workplace interventions to improve health and prevent ill health in the workplace are: providing support to prevent absence through work related ill health or recognise and take appropriate action on presenteeism; providing support for those who are not in work to overcome barriers or return to work as quickly as possible; and utilising the workplace as a healthy setting to promote health and wellbeing for all staff and employers.

The most common work related illnesses in 2013-14 were musculoskeletal disorders and work related stress, depression and anxiety. For some people, the desire for, or pressure to work when unwell for fear of losing their job is becoming increasingly apparent. Presenteeism has been defined as 'lost productivity that occurs when employees come to work but perform below par due to any kind of illness'. For all chronic conditions, the costs associated with presenteeism appear to be much more than the combined costs of absenteeism and medical treatment. It has been estimated that presenteeism caused by mental ill health in the UK has an annual cost of over £15 billion and costs 1.5 times more than absence. Returning to work is most successful when following a plan agreed between employer and employee as soon as possible, with appropriate support while absent and on return to work. Being absent for only a few weeks without contact can start a path to worklessness. 300,000 people each year fall out of work onto health related state benefits.

People with disabilities or long term health conditions have the highest rates of unemployment in the UK with 50% of people with disabilities employed, although jobs are more likely to be low paid and poor quality. Young people aged 16-18 years who are not in education, employment or training (NEET) for a substantial period are less likely to find work later in life, and more likely to experience poor long term health. In Liverpool there are significantly higher rates of NEET (8.2% against a national average of 4.7% in 2014). The gap between the local and national rate has been reducing but nevertheless it still persists. Sustaining self-belief is difficult for both populations, which can lessen the chances of obtaining employment
over time. There is good evidence that the longer someone is out of work the less likely they are to return into work. Many successful projects exist across the city designed to support people into employment. It works best when businesses recognise their role as part of the community and with partnerships between employers, education providers, social care and health and local third sector organisations, charities and community groups.

Living longer means that people will have to work longer, and the growing ageing population means that many more older people will be working with health conditions or disabilities. Employers will need to provide age friendly working environments and have a positive 'work friendly' approach to employing an older workforce.

A Workplace Wellbeing Charter\(^9\) was developed and piloted in Liverpool in 2008 and launched in 2009. Public Health England launched the refreshed Charter as the national standard in June 2014 and it is now being adopted by the majority of local authorities across England. The Charter provides employers with an easy and clear guide on how to make workplaces a supportive and productive environment in which employees can flourish. It is an opportunity for employers to demonstrate their commitment to the health and well-being of their workforce through a series of eight wellbeing standards: Leadership; Attendance Management; Health and Safety; Smoking; Mental health; Physical activity; Healthy eating; and Alcohol. The Charter aims to guide organisations at all levels to start, or further engage in, promoting workplace health. Businesses can self-assess using web resources and accreditation is undertaken by independent assessors. Since 2011, 530 Liverpool businesses have been accredited with the Workplace Wellbeing Charter, 78% of which are classed as Small and Medium Enterprises.

**Recommendations**

- To develop a whole system approach to maximising partnership working that supports vulnerable groups into employment.
- To encourage local businesses to commit themselves to accreditation with the Workplace Wellbeing Charter.

\(^9\) [http://www.wellbeingcharter.org.uk/](http://www.wellbeingcharter.org.uk/)
Chapter Seven: Ageing Well, Ending Well

Ageing well is not just for older people. As the population of people living longer increases rapidly, people are changing their view of how those extra years could be spent. A life course approach to ageing now makes better sense, to the extent that young people expecting to live longer may develop new life frameworks for work and family life. However, living longer only becomes an opportunity for individuals and society if those years are experienced in good health. However, we know that many people in Liverpool are living those additional years with ill health and disability.

In 2013, Liverpool was home to approximately 70,000 people aged over 65 years, with approximately 18,000 of these over the age of 80. The number of people over the age of 85 has increased by 10% for those aged 80-84 and 17% for those over 85. The over 65 and 85 populations are expected to grow considerably over the next twenty years.

People in the second half of life are as diverse a population as any other. There are people who will need help in their fifties and sixties and those in their eighties who engage in the same activities as those in their twenties. A significant part of this variation is likely to be accounted for by the cumulative impact of health inequities across the life course. This means that the older population should not be seen as an automatic burden on society, as is the current stereotype. UK analysis in 2011 estimated that the costs of pensions, welfare and health care, offset against taxation, consumer spending and other economically valuable activities, left a net contribution to society from older people of nearly £40 billion, which will rise to £77 billion by 2030. Healthcare costs are highest in the years closest to end of life, which suggests that the growing ageing population need not be dramatically more expensive over their additional years, but that the increase in number of those dying at the same time will have the greatest resource implications.

The WHO World Report on Ageing and Health (2015)\(^\text{10}\) takes the view that in considering health and functioning in older age, two important concepts should be defined. The first is intrinsic capacity, which refers to the composite of all the physical and mental capacities that an individual can draw on at any point in time. The second is the environments the individual inhabits and interacts with. This combination defines an individual's functional ability, or the health related attributes that enable people to be and to do what they have reason to value. Healthy Ageing is therefore defined as the process of developing and maintaining the functional ability that enables wellbeing in older age. A Public Health framework for action to promote Healthy Ageing will have the primary goal of maximizing functional ability, both by building and maintaining intrinsic capacity and by enabling those who suffer a decline in functional capacity to do the things that are important to them.

Risk factors for ill health among older people include injury, social isolation and mental health problems. Falls and falls related injuries are a common and serious problem for older people which can have a significant physical and psychological impact. The risk of falls increases steeply with age. One in three people over 65 are estimated to fall at least

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A fall and hip fracture at home costs £28,665 which is over 100 times the cost of fitting hand and grab rails to prevent falls.

Frailty develops as a consequence of age related decline in multiple body systems, which means a person is at a higher risk of a sudden deterioration in their physical and mental health from what might be considered minor events. Between a quarter and a half of people over 85 are estimated to be frail. Treating frailty as a long term condition that can be recognised as developing over several years and managed in the community has received recent support as a preventive and proactive process rather than a reactive response to a crisis through urgent and emergency care.

Loneliness and social isolation affect all aspects of health and wellbeing, and older people are especially vulnerable to loneliness, due to loss of friends and family, loss of mobility or loss of income. The Campaign to End Loneliness estimate that between 6% and 13% of people aged 60 and over often or always feel lonely, which would equate to between 5,500 and 11,900 people in Liverpool. Over 25,000 older people were living alone in the city in 2014. Depression among older people is frequently undiagnosed and opportunities for preventive action are missed. In 2014 13.9% of people over 65 (10,163) in Liverpool had a diagnosis of depression compared to 11.3% in the total population.

Various functions can start to decline in mid-life including memory, reasoning and verbal fluency, decline in walking speed and limitations in mobility that create difficulties with activities of daily living. Mid-life is taken to be upwards from forty years but can be below once a year, one in two when aged 80 or over. In Liverpool falls are high with 34.4% (24,505) of people over 65 falling each year compared to around 30% nationally. Nearly 2000 (2.7%) of these will sustain a fracture. The mortality rate from falls is also higher than the national average.
forty for those from disadvantaged populations who are at more risk of ill health and more than one condition (multiple morbidity). For many people changing specific risk factors and behaviours in mid-life can reduce the risk or delay the onset of dementia, disability and frailty in later life. Increasing resilience through improving social and emotional wellbeing can be a protective factor together with the preventive behaviours that can benefit anyone at any time across the life course: stopping smoking, being more active, reducing alcohol consumption, eating healthily and maintaining a healthy weight. In Liverpool almost a fifth of older people smoke, a fifth are obese, half do not do any moderate exercise and about 1500 people drink alcohol to hazardous or harmful levels.

In 2014 more than half of all Liverpool Clinical Commissioning Group responsible patients aged over 65 were on a disease register for hypertension. One in five patients were on the coronary heart disease register, one in six on the diabetes register and one in seven on the depression register. There are an estimated 1,795 Liverpool residents living with undiagnosed dementia as well as 3,171 patients with a dementia diagnosis, approximately two thirds of whom are female.

The EuroHealthNet Healthy Ageing partnership suggest nine key determinants to ageing healthily:

- **Education and lifelong learning**: Learning throughout the life course promotes social inclusion and better health
- **Employment and volunteering**: Being employed or involved in voluntary activities is a good way of maintaining health and avoiding social exclusion
- **Physical activity**: Physical activity promotes endurance, strength, balance and mobility
- **Diet and nutrition**: Good eating habits and healthy foods are key to staying healthier for longer
- **Social Inclusion and participation**: Participation in activities builds social connections and improves wellbeing
- **Environment and accessibility**: The environment helps determine how active older people can be in society
- **New Technologies**: Technologies can enable people to remain more active citizens
- **Access to services**: Appropriate health and social services should be accessible to all older people, helping them to lead more independent lives
- **Long term care**: Long term care can support with self-care activities and independent living

The WHO *World Report* states that Public Health action will need to be taken in four areas, changing environments and systems to better fit the profile of the growing older population:

- health systems will need to be aligned to the older populations they now serve – integrated health and care systems will need to be centred around the person and the maximisation of their functional ability, not their calendar age
- systems of long term care will also need to be people centred and integrated, improving quality, and developing financially sustainable ways to provide care to all who need it
- Both systems will need appropriately trained and sustainable workforces
- creating age-friendly environments – this includes action against ageism and enabling older people to age safely in a place that is right for them, to continue to develop personally, to contribute to their communities and to retain their autonomy and health
• improving measurement, monitoring and understanding – focused research, new metrics and analytical methods are needed for a wide range of ageing issues including the trajectories of healthy ageing into the future

End of life

Thinking of the end of life makes many people feel uncomfortable, and they have difficulty talking about themselves or other people dying. Public Health prevention approaches to end of life consider the time before and after death and everyone involved.

74% of people say they would prefer to die at home, but currently 58% of people die in hospital. In 2013 just over half of over 65 year old deaths in Liverpool were in a hospital setting. On average, people have 3.5 admissions to hospital in their last year of life, spending almost 30 days in bed in hospital. In economic terms, dying in hospital is costly and good community services can reduce those costs while making a positive difference to end of life experiences. This will be very important given the predicted rise in numbers of older people in the coming decades.

Keeping people approaching end of life out of hospital and in the setting they prefer requires acting early and ensuring the availability of services that work with the person at end of life, their family and their community. GPs have a responsibility to identify those who may be approaching the last year of life, and they and their practice staff should ensure that this is recorded and there are appropriate discussions and support offered to the patient and others closely involved. An advance care plan can be completed with the patient to ensure that their wishes regarding their care are recorded. Making information available as a shared record electronically enables the patient's status to be identified correctly across all settings of care, and improves coordination of care around the patient. Where such systems are used, more than twice as many people have been reported to die at home compared with the local area.

Providing care in community settings reduces admissions to hospital at end of life. It is important that care is provided from the patient and carer's perspectives rather than by service definition. 24/7 services should mean that whatever service is needed is fully available at any time. The provision of anticipatory medicines and any equipment that might be needed can also avoid hospital admissions. If an admission is necessary, services should work together to enable return to a community setting as soon as possible where appropriate.

Carers make a significant contribution to end of life care in enabling people to stay out of hospital. Informal carers for people with terminal cancer provide health and social care worth £219 million every year. At the other end of the spectrum there are a growing number of older people who have no informal care support at all. The proportion of time carers spend with end of life patients, from identification, is likely to be very much higher than that spent with health professionals, although professional input is what most people think of in relation to end of life. Carers should have their needs assessed and their own support plans. Support should continue after the person has died as there is a risk of the carer's own health deteriorating. This is very important where the carer is an older person,
to prevent crisis admissions to hospital. The 2011 Census recorded that over 9000 Liverpool people over the age of 65 provided unpaid care which is 14% of all of those aged over 65 in the city. More than half (53%) of these carers provide care for more than 50 hours per week, which is significantly higher than the national average of 38%.

Health promoting approaches to end of life have a preventive effect as they encourage thinking earlier in life. The National Council for Palliative Care have developed the Dying Well Community Charter\(^\text{11}\) which encourages social responsibility for creating a good environment for one's own and other's life ending. The Charter aims to engage communities in the end of life so that those affected by dying and death do not feel abandoned and socially isolated. Suggestions for action include 'death café' events where people can come to discuss any aspect of death and dying in a supportive environment, and developing school and workplace plans to support those affected by death, especially unexpected death. Liverpool is one of eight Pathfinder areas implementing the Charter in their communities.

**Key Public Health Objective**

To promote healthy ageing and prevent frailty.

**Recommendations**

- Promote healthy living throughout the life course and into old age.
- Ensure that people living with long term conditions are supported to live healthy lives and to care for themselves in ways that help them to better manage their condition.
- Ensure that we understand the barriers to ageing well.
- Continue to increase life expectancy and healthy life expectancy.
- Support carers into services that can support their health and wellbeing.
- Understand Public Health’s role in helping people at the end of life to end their days in their place of choice.

Chapter Eight: Challenges

The Challenges for 2015/16

The challenges that we take with us into 15/16 are not dissimilar to those of 14/15. This Report started with a list of key highlights for Public Health, but we know that improving on or maintaining some of these achievements will need a whole system approach, that includes our communities and individuals.

Challenges for the Public's Health

Many of the lifestyle issues that we have been tackling for many years have not gone away.

- We still have issues with tobacco that we need to tackle, although our smoking rates are still reducing in both adults and young people. Numbers of people being referred into stop smoking services that offer the best chance of quitting alongside pharmacotherapies, are reducing and we need to address this, as smoking is still our biggest killer, and we still have rates as high as 50 per cent in some of our communities. We need to continue to lobby for further understanding of the role of e cigarettes in quitting smoking and in the re normalisation of smoking, and call for regulation of all products, to ensure safety and to minimise harm.

- We need to continue to work to reduce the consumption of alcohol through our treatment services, identification and brief advice programmes in General Practice and our campaigns. We have made some progress but we need to continue to see reductions in alcohol admissions to hospital when compared to North West and National figures. We will continue to lobby for Minimum Unit Price for the City Region.

- We are seeing a small but worrying trend towards the use of 'legal highs' particularly in our young people, and we need to work with schools, colleges and young peoples' addiction services to understand this trend and stop it before it becomes a bigger concern.

- Rates of obesity in adults and children are set to rise and we need to lobby for reductions in sugar and fat in the diet, and halt the increasing rates of type 2 diabetes that we are also seeing. We need to increase levels of physical activity in the daily lives of children and adults through our combined partnership support for the Physical Activity and Sport Strategy for the City.

- Antimicrobial resistance is a major worry both locally and nationally, and we need to support the delivery of clear messaging to the population and to health care professionals about the effective use of antibiotics and the management of expectations around prescriptions.

12 www.liverpoolccg.nhs.uk/Library/About_us/Publications/Liverpool%20Active%20City%20Strategy%202012%20to%202017.pdf
Challenges for the System

- Retaining and increasing investment for Public Health is key to the delivery of a preventive approach to health. Public Health struggles now with the level of ill health that needs to be addressed, and while not all improvements are service driven, we need to see effective levels of investment to keep a range of activities in place to ensure sustainable behaviour change.

- Continuing to develop a well-trained and competent Public Health work force for the future, including the wider workforce is also key to effective delivery of outcomes. We need to ensure that future Public Health staff understand the potential of working from within a Local Authority, but also that people see Public Health as a credible and worthwhile profession to pursue.

- Ensuring that we continue to engage with our communities and build on assets is something that we have not yet done enough of across the whole system. This is essential if we are to help build healthy communities.

- We need communities and the public to take a role in caring for their own health and wellbeing, but we need to provide them with skills to understand how to do this and what benefits this has for them.

Public Health is not short of challenges, and we need to lead on the delivery of approaches, some old and some new, to meet these challenges head on, and to show what impact we can have, even in a City with poor health outcomes. We have already made inroads into those poor health outcomes, and we will continue to do so. Our mantra is 'prevention, prevention, prevention'.

Liverpool City Council 2015

Further information on many of the topics in this report and current statistics can be found on the Liverpool Joint Strategic Needs Assessment webpages:

www.liverpool.gov.uk/jsna

We welcome any comments or feedback on the Annual Report of the Director of Public Health for Liverpool

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